Everything in view at all times:
Environmental monitoring
with testo Saveris 1.

Automated and uninterrupted measurement data recording
with comprehensive alarm management.

The challenge: Standard-compliant quality assurance in all areas.

Quality requirements can be complex - especially when many different areas need to be monitored. Wherever sensitive goods are manufactured or stored, it is essential to keep an eye on the environmental conditions at all times so that product quality does not suffer. What do you think: How well does quality assurance work in your company?

A lot of data, not much benefit?

☐ Is the environmental data relevant to your compliance being collected efficiently and reliably?
☐ Are the recorded data centrally and securely stored?
☐ Can you use the recorded quality data for analysis, and for improving your risk assessment?

High costs, low efficiency?

☐ Can you record your data without piles of paper and in accordance with all legal requirements?
☐ Can you carry out audits quickly and at low cost?
☐ Can you access your audit-relevant data at any time?

Lack of transparency?

☐ Do you know exactly what the indoor climate is like in critical areas?
☐ When problems occur: Can critical parameters be identified, and corrected quickly and in time?

Too little control?

☐ Can you be sure that quality assurance is always working reliably?
☐ Can you react quickly to unexpected environmental influences?
☐ Are you relaxed about your next audit?

The solution: All the information at a glance – using just one system.

Compliance, transparency, efficiency and security are the important building blocks of your daily work. testo Saveris 1 not only helps you to keep an overview of processes, but also to document your measurement data securely and in a way that conserves resources. Be ready for the next audit at any time at the touch of a button.

Secure

With the help of comprehensive user management, you can ensure that only authorized and authenticated employees have access to system configuration and measurement data. An audit trail valid according to international standards as well as electronic signatures document every event performed within the system.

Scalable

The testo Saveris 1 environmental monitoring system is scalable so that you can easily monitor numerous measuring points in different areas and locations with just one system. You have all quality data ready for the next audit at the push of a button.

Without interruption

Complete and seamless documentation of your measurement data thanks to fully automated recording and archiving. Various redundant system backup measures ensure that no measurement data is lost even in the event of power failures or disconnections.

Transparent

Despite secure local data storage, the browser-based Cockpit allows worldwide access to all your measurement data at any time and from any device. Intelligent and comprehensive alarm management thus allows you to react to unwanted events before serious consequences arise - you will no longer miss any limit value deviation.

Efficient

Use your time for the really value-adding activities and save time and money by using a fully automated and efficient environmental monitoring system for measurement data recording and documentation. No more sorting through mountains of paper in search of important data.

The all-rounder:
Made for almost any application.

The all-in-one solution testo Saveris 1 was designed and implemented in collaboration with experts from industry as well as research and development. High-precision measurement technology, intuitive software and comprehensive services will help you to do your job quickly, efficiently and in compliance with current regulations.

Monitoring of
indoor air quality
climatic cabinets
(ultra) deep-freezers
laboratory equipment
refrigerators and freezers

Research & Development

In medical, biotechnical, chemical and pharmaceutical laboratories and cleanrooms, important climatic parameters have to be monitored. This is the only way to protect sensitive samples and maintain a high quality standard. Temperature in particular is a critical parameter that must be monitored. Humidity and pressure must also be included in standard-compliant environmental monitoring.

Production

If temperature-sensitive goods such as pharmaceuticals, foodstuffs or lithium batteries are produced and stored under the wrong climatic conditions, the quality and stability of the products can suffer. In most cases, internationally valid minimum standards stipulate that the relevant areas are qualified and the environmental conditions are monitored and documented in a manipulation-proof way.

Storage & Logistics

In the general storage and logistics of goods of any kind, minimum standards are often required when it comes to temperature monitoring. This applies to the pharmaceutical industry and medical technology as well as to the food sector or logistics and industrial companies in general. The reason: Monitoring is the only way to ensure that the quality and safety of products are not jeopardized.

Health sector

In healthcare, environmental measurement solutions are used in many different areas to ensure patient safety and to reduce the risk of product losses and compliance violations. Whether in hospital operating theatres and treatment rooms to monitor medications, in a blood and tissue bank to protect samples, or in an in-house pharmacy where sensitive medications are manufactured and stored.

Gateway
With the help of the Gateway, Ethernet signals can be easily converted into testo UtlraRange signals (radio). This means that long transmission distances between individual measuring points are no problem.

Communication modules
The modular design of the data loggers means that different output interfaces can be easily and flexibly integrated into the existing infrastructure - via testo UltraRange (radio), WLAN or LAN.

Base station
The heart of the testo Saveris 1 system manages measured values from up to 3,000 channels and serves as a redundant storage medium between data loggers and database. Thus, all measurement data are recorded and archived seamlessly and fail-safe.

Software & cockpit
All measurement data is compiled, visualized and documented seamlessly. At the same time, the software enables detailed analysis, graphic/tabular presentation and evaluation of the data.The alarm management system can be customized. Reports can be configured automatically or manually. With the help of the web-based Cockpit, you can access the system at any time and from any location.
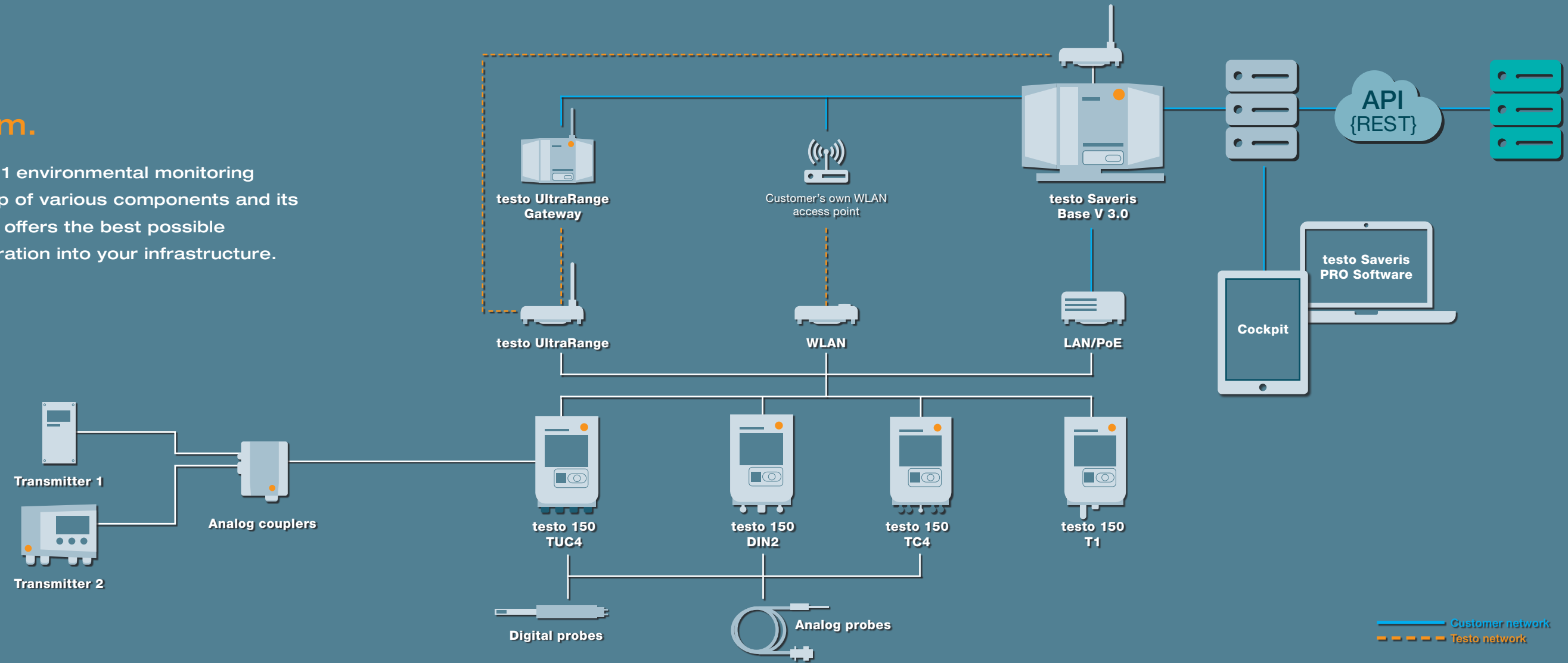
REST API
It allows data from the monitoring system to be retrieved quickly and easily for transfer to other systems, such as your own building or laboratory management system.

The system.

The testo Saveris 1 environmental monitoring system is made up of various components and its unique modularity offers the best possible flexibility for integration into your infrastructure.

testo UltraRange Gateway

Customer's own WLAN access point

testo Saveris Base V 3.0

API {REST}

testo Saveris PRO Software

testo UltraRange

WLAN

LAN/PoE

Cockpit

Transmitter 1

Transmitter 2

Analog couplers

testo 150 TUC4

testo 150 DIN2

testo 150 TC4

testo 150 T1

Digital probes

Analog probes

Customer network
Testo network

Transmitters
Especially for special applications in demanding measuring environments, such as cleanrooms, it may be useful to integrate a transmitter into the system. Different models for the integration of differential pressure, high humidity or other parameters can be found separately in our portfolio.

Analog couplers
As standard, testo testo Saveris 1 can be used to record temperature and humidity values. With the help of the analog coupler, you have the option of integrating further measurement parameters such as differential pressure or CO_2 into the environmental monitoring system via a current and voltage input by means of a transmitter.

Probes & sensors
The available probe and sensor portfolio is extensive and made for almost any application: From robust NTC sensors, to very precise Pt100 probes, to thermocouples with a large measuring range for extreme conditions. In addition to the analog probes, the digital variants offer the particular advantage that probes can be exchanged during operation. The recording of measured values thus remains complete and uninterrupted at all times with minimal effort.

Data logger modules
Depending on the application, you can choose between four different data logger modules with internal sensor or different connection options (TUC, DIN2, or TC). The modules can be freely combined with three communication modules available for selection. This allows the transmitters to be perfectly integrated into any infrastructure.

Base station and Gateway

testo Saveris Base V3.0
testo UltraRange Gateway

✓ Seamless recording of measured values due to redundant data storage, even in the event of system-critical incidents or power failure

✓ Management of up to 3,000 measuring channels via the Base Station

✓ Establishment of a redundant radio network for secure data storage and flexible measuring points

✓ Optional connection of additional external alarm providers (optical and acoustic) via a relay output

testo Saveris Base V3.0 is the core component of the testo Saveris 1 environmental monitoring system. It manages measurement data from up to 3,000 channels, evaluates it and generates alarms if any limit value violations should occur.

The built-in emergency battery guarantees maximum data security, even in the event of a power failure. The system alerts you visually, as well as via e-mail and SMS. Optionally, further optical and acoustic signalling devices can be connected via an alarm relay.

Besides Ethernet and WLAN, the testo Saveris 1 environmental monitoring system also supports the testo UltraRange long-range radio technology. In addition to using an existing infrastructure, this also offers the option of using an autonomous radio network via encrypted, proprietary signals, which has an excellent range and signal stability for use in enclosed spaces.

Order data

testo Saveris Base V3.0

testo Saveris Base including rechargeable battery and configuration cable.
Caution: communication modules and mains units are not included in delivery.

Order no. 0572 9320

testo UltraRange Gateway

Gateway for testo UltraRange radio link incl. configuration cable.
Caution: communication modules and mains units are not included in delivery.

Order no. 0572 9310

Accessories

Accessories for testo Saveris Base V3.0 and testo UltraRange Gateway	Order no.
Tabletop stand	0554 7200
Mains unit with USB cable	0572 5004
testo UltraRange communication module (region EU)	0554 9311 02
testo UltraRange communication module (region US)	0554 9312 02
testo UltraRange communication module (region CN)	0554 9313 02
testo UltraRange communication module (region APAC*)	0554 9314 02
testo UltraRange communication module (region KR)	0554 9315 02
testo UltraRange communication module (region IN)	0554 9316 02
testo UltraRange communication module (region RU)	0554 9317 02
*Japan, Malaysia, Singapore, Taiwan, Macau	

Accessories for testo Saveris Base V3.0	Order no.
Spare rechargeable battery	0515 5107
LTE stick (EMEA)	0554 7214
LTE stick (US)	0554 7213
LTE stick (Americas)	0554 7211
LTE stick (APAC & Australia)	0554 7212
External antenna for LTE stick	0554 7230
External antenna for LTE stick	0554 7234
Alarm module (optical & audible)	0572 9999 for operation: 24V mains unit 0554 1749 required

Data logger modules
for monitoring environmental parameters
testo 150

°C

%RH

✓ Automated, uninterrupted, no-loss recording of measurement data in a regulated environment

✓ Can be combined with Testo communication modules for measurement data transmission via WLAN, Ethernet or testo UltraRange technology

✓ GxP-compliant alarming and documentation as well as additional alarming directly on the logger

✓ Efficient monitoring by connecting up to four sensors

✓ Certified according to DIN EN 12830:2018

The four testo 150 data logger modules are part of the testo Saveris 1 environmental monitoring system and enable safe, simple and efficient monitoring of critical environmental parameters, also in accordance with the strictest GxP-guidelines.

Thanks to their modular design, the testo 150 data logger modules can be integrated into any existing communication infrastructure (WLAN, LAN). The optional testo UltraRange long-range radio technology also enables the autonomous and secure transmission of readings over long distances.

All data logger modules alert you in case of limit violations via the local measurement data management software and the web-based Cockpit.

The **testo 150 TUC4** data logger module has four Testo Universal Connector ports for digital sensors that can be easily replaced during operation.

Up to four thermocouples can be connected to the **testo 150 TC4** data logger module for measuring extreme conditions.

The data logger module **testo 150 DIN2** allows the use of numerous standard probes from the Testo portfolio thanks to the two miniDin connections.

The **testo 150 T1** data logger module has an internally installed NTC temperature sensor, ideal for monitoring ambient parameters.

Order data

testo 150 TUC4

Data logger module with display and 4 connections for all Testo sensors with TUC (Testo Universal Connector). Incl. wall bracket, batteries and calibration protocol.

Order no. 0572 3320

DIN EN 12830:2018

testo 150 DIN2

Data logger module with display and 2 connections for temperature sensors with miniDIN connector. Incl. wall bracket, batteries and calibration protocol.

Order no. 0572 3340

DIN EN 12830:2018

testo 150 TC4

Data logger module with display and 4 connections for thermocouples. Incl. wall bracket, batteries and calibration protocol.

Order no. 0572 3330

DIN EN 12830:2018

testo 150 T1

Data logger module with display and 1 internal NTC temperature sensor. Incl. wall bracket, batteries and calibration protocol.

Order no. 0572 3350

DIN EN 12830:2018

Accessories

| Accessories	Order no.
L91 Energizer batteries	0515 0572
Mains unit & USB cable for testo 150	0572 5004
4 x AlMn battery LR 6 (alkaline manganese AA batteries)	0515 0414
Magnetic attachment for testo 150 wall bracket	0554 2001

Communication modules	Order no.
LAN / PoE communication module	0554 9330
WLAN communication module	0554 9320 01
testo UltraRange communication module (region Europe)	0554 9311 01
testo UltraRange communication module (region Americas)	0554 9312 01
testo UltraRange communication module (region China)	0554 9313 01
testo UltraRange communication module (region APAC*)	0554 9314 01
testo UltraRange communication module (region South Korea)	0554 9315 01
testo UltraRange communication module (region India)	0554 9316 01
testo UltraRange communication module (region Russia)	0554 9317 01

*Japan, Malaysia, Singapore, Taiwan, Macau

Communication modules
for data logger modules, Base Station and Gateway
testo 150
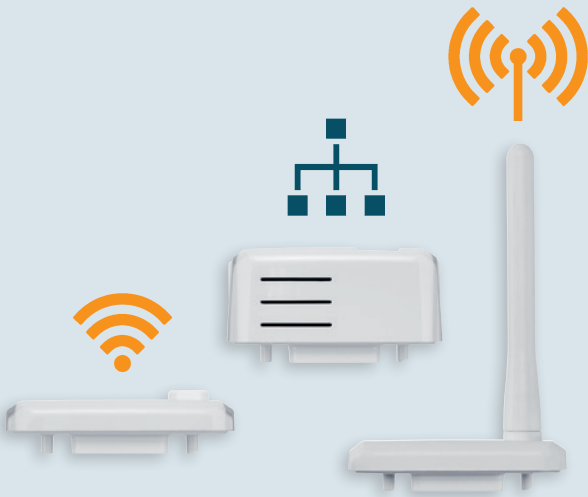
✓ Modular components for communication via WLAN, Ethernet and testo UltraRange (radio)

✓ Can be freely combined with all testo 150 data logger modules for maximum scope of application

✓ International radio authorizations

✓ testo UltraRange technology: superb radio range and signal stability compared with conventional radio technologies

✓ Easy installation, maintenance and commissioning

The communication modules enable the use of a wide range of communication technologies with the testo 150 data logger modules. Depending on the application, you can either use an existing infrastructure (WLAN or Ethernet) or use the testo UltraRange long-range radio technology.

With this innovative product, you have the option of using an autonomous radio network via encrypted, proprietary signals; this has an excellent range and signal stability for use in enclosed spaces.

Radio network functionality

The use of several Gateways within a system allows a testo UltraRange radio network to be set up. Individual measuring points each communicate with the Gateway with the strongest signal in the immediate vicinity. The measurement data transmission can thus be redundantly secured. If communication to a Gateway is interrupted or a Gateway even fails, the testo 150 loggers simply communicate independently to the next available Gateway. Furthermore, measuring points within an UltraRange radio network can be flexibly repositioned without interrupting communication.

Order data

LAN/PoE communication module

LAN communication module with PoE for testo 150 data loggers

Order no. 0554 9330

WLAN communication module

WLAN communication module for testo 150 data logger

Order no. 0554 9320 01

testo UltraRange communication module

testo UltraRange communication module for testo 150 data loggers and testo UltraRange Gateway

Version	for	Order no.	Version	for	Order no.
Region Europe	Data loggers	0554 9311 01	Region South Korea	Data loggers	0554 9315 01
	Base and Gateway	0554 9311 02		Base and Gateway	0554 9315 02
Region Americas	Data loggers	0554 9312 01	Region India	Data loggers	0554 9316 01
	Base and Gateway	0554 9312 02		Base and Gateway	0554 9316 02
Region China	Data loggers	0554 9313 01	Region Russia	Data loggers	0554 9317 01
	Base and Gateway	0554 9313 02		Base and Gateway	0554 9317 02
Region APAC*	Data loggers	0554 9314 01			
	Base and Gateway	0554 9314 02			
*Japan, Malaysia, Singapore, Taiwan, Macau					
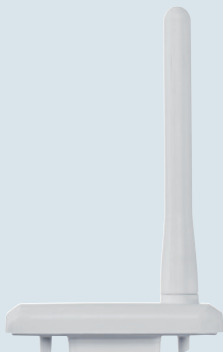
Accessories

Base	Order no.
testo Saveris Base V3.0	0572 9320

Gateway	Order no.
testo UltraRange Gateway	0572 9310

Data loggers	Order no.
testo 150 TUC4 data logger	0572 3320
testo 150 TC4 data logger	0572 3330
testo 150 DIN2 data logger	0572 3340
testo 150 T1 data logger	0572 3350

Digital analog coupler
with current/voltage input for the data logger module
testo 150 TUC4

✓ Integration of many other measurement parameters via 4 to 20 mA connection

✓ Standardized interfaces for easy integration

✓ Easy connection to the testo 150 TUC4 data logger via TUC connection

In addition to temperature and humidity, other measurement parameters such as differential pressure can be integrated into the Testo environmental monitoring system. For example, all transmitters with standardized current and voltage inputs can be integrated.

The digital analog coupler is easily integrated into the Saveris system via Ethernet, WLAN or testo UltraRange radio technology using the testo 150 TUC4 data logger.

Order data

Digital analog coupler for testo 150
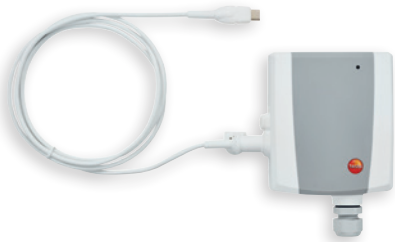
Order no. 0572 2166

Digital temperature and humidity probes
for the testo 150 TUC4 data logger module

°C

%RH

✓ High-precision digital probes for the GxP-regulated environment

✓ Probe exchange in seconds without data gaps in the documentation

✓ Wide temperature measuring range

✓ Easy handling and installation

✓ Efficient system monitoring with digital door contacts

Order data

Probe/logger matrix

Order no.	Description	testo 150 TUC4	testo 150 TC4	testo 150 DIN2
Digital probes				
0572 2162	Digital NTC stub temperature probe	X	–	–
0572 2163	Digital PT100 cable temperature probe	X	–	–
0572 2164	Digital stub humidity/temperature probe	X	–	–
0572 2165	Digital cable humidity/temperature probe	X	–	–
0572 2161	Digital door contact	X	–	–
0618 0071	Flexible digital Pt100 temperature probe	X	–	–
0618 7072	Glass-coated digital Pt100 laboratory probe	X	–	–

Accessories

	Temperature range	Order no.
Extension cable 2 m	-30 to +50 °C	0449 3302
Extension cable 6 m	-30 to +50 °C	0449 3306
Extension cable 10 m	-30 to +50 °C	0449 3310

The digital probes make it possible to carry out high-precision measurements for GxP-relevant parameters in a regulated environment. It is not necessary to interrupt the measurement to calibrate the probes – they are replaced during operation. There is no need to remove the data loggers and there are no gaps in the measured values. The digital probes can be used with the testo 150 TUC4

data logger module and benefit from the versatility of the testo Saveris 1 environmental monitoring system: use either different communication infrastructures such as WLAN or Ethernet, or the state-of-the-art testo UltraRange radio technology for unparalleled, secure and efficient long-range communication in a proprietary network.

Analog temperature probes
for the testo 150 data logger modules

°C
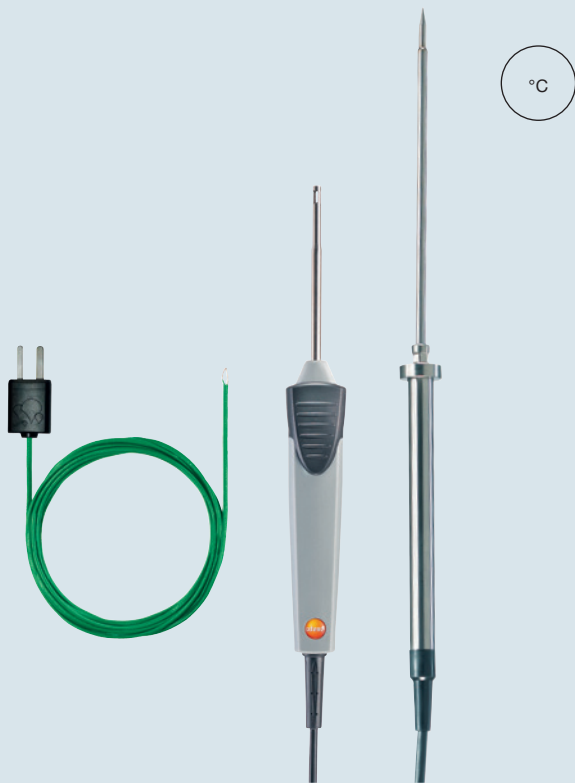
✓ High-precision measurement in the GxP-regulated environment

✓ Wide temperature measuring range

✓ Extensive probe portfolio – customized adaptations are also possible

✓ Short response time

✓ Different cable variants and cable lengths available

Testo's analog temperature probes cover almost every possible temperature measurement scenario in many sectors.

NTC resistance probes are exceptionally robust and reliable. They also feature a high degree of accuracy and a wide range of applications within temperature measurement.

Platinum resistance probes (PT100) are used when a wider temperature range needs to be measured than can be covered by NTC resistance probes, for example.

Thermocouples really stand out thanks to a flexible and broad selection of suitable sensors for a wide range of applications.

Probe/logger matrix

Type	Probes	Order no.	Probe suitable for data logger		
			testo 150 TUC4	testo 150 TC4	testo 150 DIN2
NTC	Penetration probe NTC with ribbon cable, cable length 2 m, IP 54	0572 1001	–	–	X
	External temperature probe 12 mm, plug-in, without cable	0572 2153	–	–	X
	Accurate immersion/penetration probe, cable length 6 m, IP 67	0610 1725	–	–	X
	Stationary probe with aluminium sleeve, IP 65	0628 7503	–	–	X
	Pipe wrap probe with Velcro tape for pipe diameters up to max. 75 mm	0613 4611	–	–	X
	Probe for surface measurement	0628 7516	–	–	X
	Wall surface temperature probe	0628 7507	–	–	X
	Stainless steel NTC food probe (IP65) with PU line	0613 2211	–	–	X
	Waterproof NTC immersion/penetration probe	0613 1212	–	–	X
	Accurate immersion/penetration probe, cable length 1.5 m, IP 67	0628 0006	–	–	X
	Waterproof immersion/penetration probe	0615 1212	X	–	–
	Robust air probe	0615 1712	X	–	–
	Temperature probe with Velcro	0615 4611	X	–	–
Pt100	Penetration probe Pt100 with ribbon cable, cable length 2 m, IP54	0572 7001	–	–	X
	Robust, waterproof Pt100 immersion/penetration probe	0609 1273	–	–	X
	Robust Pt100 stainless steel food probe (IP65)	0609 2272	–	–	X
TC	Penetration probe, TC type K with ribbon cable, cable length 2 m, IP 54	0572 9001	–	X	–
	Thermocouple with TC plug, flexible, length 800 mm, fibreglass	0602 0644	–	X	–
	Thermocouple with TC plug, flexible, length 1500 mm, fibreglass	0602 0645	–	X	–
	Thermocouple with TC plug, flexible, length 1500 mm, PTFE	0602 0646	–	X	–
	Magnetic probe, adhesive force approx. 20 N, with adhesive magnets	0602 4792	–	X	–
	Magnetic probe, adhesive force approx. 10 N, with adhesive magnets	0602 4892	–	X	–
	Immersion measuring tip, flexible, for measurements in air/flue gases	0602 5693	–	X	–
	Immersion measuring tip, flexible	0602 5792	–	X	–
	Flexible, low-mass immersion measuring tip	0602 0493	–	X	–
	Pipe wrap probe for pipe diameters 5 to 65 mm	0602 4592	–	X	–
	Pipe wrap probe with Velcro strip	0628 0020	–	X	–
	Stationary probe with stainless steel sheath	0628 7533	–	X	–
	Waterproof superfast needle probe	0628 0027	–	X	–
	Frozen food probe for screw-in use without pre-drilling	0603 3292	–	X	–
	Robust food penetration probe with special handle	0603 2492	–	X	–
	Waterproof standard immersion/penetration probe	0603 1293	–	X	–

Measurement data management software
for the industrial and GxP-regulated environment

testo Saveris CFR
testo Saveris PRO
testo Saveris Cockpit
testo Saveris REST API

- ✓ Client and viewer software including database for installation on PC or server
- ✓ Fast localization and analysis of alarms with graphic visualization
- ✓ Platform-independent data access
- ✓ Customizable alarm management and reporting
- ✓ Reduced training requirement and low error potential thanks to intuitive operability
- ✓ Alarm acknowledgement via smart device

In the testo Saveris software, all measurement data is collated, visualized and documented seamlessly.

The validatable CFR version of the software ensures strict compliance with US 21 CFR Part 11 as well as Annex 11 of the EU GMP Guideline through maximum data integrity, audit trail, user levels with different user rights and electronic signatures.

The web-based, intuitive Cockpit of the testo Saveris CFR software additionally allows alarms to be identified and

acknowledged at all times and from any end device. Alarms are clearly presented in the Cockpit and can no longer be overlooked. Each acknowledgement of an alarm must be completed with a personalized, digital signature as well as a mandatory comment on the event.

The REST API allows you to quickly and easily retrieve data from the monitoring system to transfer it to other systems, such as your own building or lab management system.

Order data

testo Saveris PRO

testo Saveris PRO software (1–10 users) + Cockpit	Order no. 0572 0181
testo Saveris PRO license (+1 user)	Order no. 0572 0190

testo Saveris CFR

testo Saveris CFR software license (1–10 users) + Cockpit	Order no. 0572 0182
testo Saveris CFR software license (+1 user)	Order no. 0572 0193
Adjustment software	Order no. 0572 0183

testo Saveris REST API

Access Code REST API	Order no. 0572 1861

testo Saveris PRO

- ✓ Graphical/tabular display of measurement data
- ✓ Zone grouping of several measuring points
- ✓ Comprehensive analysis functions incl. trend data, MKT, etc.
- ✓ Automated, centralized archiving of the measurement data
- ✓ Tamper-proof recording and documentation
- ✓ Extensive alarm and escalation management
- ✓ Customized and automated reporting
- ✓ Client-server concept: Access from different PCs connected to the network

testo Saveris CFR

- ✓ Conformity with FDA 21 CFR Part 11
- ✓ Audit trail
- ✓ Electronic Recording and Electronic Signature (ERES)
- ✓ Strong user management based on different user groups via Windows authentication

Cockpit

- ✓ Simple and intuitive user interface
- ✓ Access to measurement data at any time and from any device (smartphone, tablet or PC)
- ✓ Geographical hierarchical structure of many measuring points in one system
- ✓ Visualization through individual floor plans
- ✓ Customized and automated reporting
- ✓ Strong user management based on different user groups via Active Directory

REST API

- ✓ Detailed information about a channel and the sensors connected to it
- ✓ Measured values for a channel in a specific, freely selectable time interval
- ✓ All alarms (active & unacknowledged) of a Base
- ✓ General instrument information such as serial number and name and ID
- ✓ Connecting third-party software to the cockpit to retrieve data (read only)
- ✓ Integration of data into existing (LIMS) laboratory information and management systems and connection to building management systems

Technical data for
data logger modules

	testo 150 TUC4	testo 150 TC4	testo 150 DIN2	testo 150 T1
Display				
Display type	Segment display			
Display functions	Display of 2 measurement channels, limit value violations, connection status, signal strength, battery status, display can be disabled			
Physical specifications				
Housing material	PC/PET (front) / ABS+PC+10% GF/PET (rear)			
Size (W x H x L)	69.3 x 88.0 x 29.0 mm	69.3 x 89.3 x 29.0 mm	69.3 x 87.9 x 29.0 mm	69.3 x 88.3 x 29.0 mm
Measuring range	Analog (NTC): -40 to +150 °C Digital: See probes	1. TC Type K: -200 to +1350 °C 2. TC Type J: -100 to +750 °C 3 TC Type T: -200 to +400 °C	NTC: -40 to +150 °C Pt100 (with external probe): -200 to +600 °C	-40 to +50 °C (internal probe)
Accuracy (±1 digit)	Analog (NTC): ±0.3 °C Digital: See probes	±(0.5 °C + 0.5% of measured value)	NTC: ±0.3 °C Pt100: ±0.1 °C (0 to +60 °C) ±0.2 °C (-100 to +200 °C) ±0.5 °C (other measuring ranges)	±0.4 °C
Solution	Analog (NTC): 0.1 °C / 0.1 °F Digital: See probes	0.1 °C	NTC: 0.1 °C / 0.1 °F Pt100: 0.01 °C / 0.01 °F	0.1 °C / 0.1 °F
Weight	Approx. 255 g			
IP protection class	IP 67 & IP 65 (with mounted testo UltraRange and WLAN communication module), IP 30 (Ethernet) (in each case without probe)			
Operating and storage conditions				
Storage temperature	-40 to +60 °C			
Operating temperature	-40 to +50 °C			
Power				
Power supply	optionally via mains unit & micro USB (0572 5004)			
Battery type	4 x AA alkaline manganese batteries At temperatures below +10 °C, the use of Energizer Li batteries is recommended (0515 0572)			
Battery life	testo UltraRange: Up to 7.2 years WLAN: 3.5 years (1 h communication cycle, 15 min measurement, +25 °C, 1 digital NTC probe connected)	testo UltraRange: Up to 6.4 years WLAN: 3.3 years (1 h communication cycle, 15 min measurement, +25 °C, 1 Type K probe connected)	testo UltraRange: Up to 6.7 years WLAN: 3.7 years (1 h communication cycle, 15 min measurement, +25 °C, 1 analog NTC probe connected)	testo UltraRange: Up to 7.2 years WLAN: 3.5 years (1 h communication cycle, 15 min measurement, +25 °C)
Interfaces				
Connections	4x TUC micro USB TCI (testo Communication Interface)	4x thermocouple (Type K, J, T) micro USB TCI (testo Communication Interface)	2x miniDIN micro USB TCI (testo Communication Interface)	micro USB TCI (testo Communication Interface)
Measurement data storage				
Measuring interval	5 seconds to 24 hours (Ethernet communication) / 1 minute to 24 hours (testo UltraRange radio or WLAN)			
Channels	16	4	2	1
Internal memory (per channel)	min. 16,000 readings	min. 64,000 readings	min. 128,000 readings	256,000 readings
Communication cycle	15 min*			
Other				
Wall bracket	Included			

** in consultation with Testo the communication interval can be changed in special cases

Technical data for
communication modules

	LAN/PoE communication module	WLAN communication module	testo UltraRange communication module
Physical specifications			
Housing material	Plastic		
Size (W x H x L)	67.8 x 29.5 x 28.9 mm	67.8 x 12.2 x 28.9 mm	67.8 x 112.8 x 28.9 mm
Weight	Approx. 45 g	Approx. 17 g	Approx. 30 g
IP protection class (when connected to a testo 150 data logger module)	IP 30	IP 67	IP 67
Operating and storage conditions			
Storage temperature	-40 to +60 °C		
Operating temperature	-35 to +50 °C	-35 to +50 °C	-40 to +50 °C
Power			
Power supply	via PoE (Class 0)	via TCI	via TCI
Interfaces			
Connections	LAN (transmission rate: 10/100 Mbit)	TCI	TCI
Connectible loggers	testo 150 TUC4, testo 150 TC4, testo 150 DIN2, testo 150 T1		
Measurement data storage			
Communication cycle	15 min**		
Other			
Radio frequency	–	2.4 GHz	868 MHz (region Europe) 868 MHz (China) 920 MHz (region APAC*) 915 MHz (region Americas) 922 MHz (South Korea) 865 MHz (India) 868 MHz (Russia)
Transmission range		20 m inside buildings	100 m inside buildings (depending on spatial conditions) 17 km with no obstructions

*Japan, Malaysia, Singapore, Taiwan, Macau
** in consultation with Testo the communication interval can be changed in special cases

Technical data for
Base station and Gateway

	Base station testo Saveris Base V3.0	testo UltraRange Gateway
Physical specifications		
Housing material	ABS/PC plastic	
Dimensions (L x W x H)	193 x 112 x 46 mm	
Weight	Approx. 370 g	Approx. 314 g
IP protection class	IP20	
Operating and storage conditions		
Storage temperature	-20 to +60 °C	-20 to +80 °C
Operating temperature	+5 to +35 °C	0 to +50 °C
Power		
Power supply	PoE class 0; optionally via mains unit & micro USB cable (order no. 0572 5004)	
Rechargeable battery type	Li-Ion rechargeable battery, 3.7 V / 2.6 Ah, Order no. 0515 0107 (for data backup and emergency alarm in the event of power failure)	–
Interfaces		
Connections	2x USB LAN/PoE: Transfer rate 10/100 Mbit PoE class 0 micro USB alarm relay connection	1x USB LAN/PoE: Transfer rate 10/100 Mbit PoE class 0 micro USB
Channels per Base	3,000	–
Loggers per Gateway	–	40
Measurement data storage		
Memory	Circular buffer memory	–
Max. number of measurement values	120,000,000	–
Internal memory (per channel)	40,000	–
Other		
Alarm relay	Connection for external alarm relay available	–
GSM module	via LTE stick	–

Technical data for
digital analog coupler

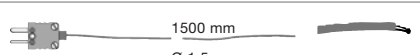|	
Physical specifications	
Housing material	Plastic
Size (W x H x L)	85 x 100 x 38 mm
Weight	240 g
IP protection class	IP54
Operating and storage conditions	
Storage temperature	-25 to +60 °C
Operating temperature	+5 to +45 °C
Power	
Power supply	Power supply via testo 150 TUC4 logger
Interfaces	
Connections	2- or 4-wire current/voltage input
Connectible loggers	testo 150 TUC4
Measurement data storage	
Measuring range	4 to 20 mA; 0 to 10 V
Measuring interval / communication rate	Dependent on data logger testo 150 TUC4
Accuracy	Power Maximum error: ±0.03 mA Resolution (min. error): 0.75 µA (16 bit) typical error: 5 µA Voltage 0 to 1 V maximum error: ±1.5 mV resolution (min. error): 39 µV (16 bit) Typical error: 250 µV 0 to 5 V maximum error: ±7.5 mV resolution (min. error): 0.17 mV typical error: 1.25 mV 0 to 10 V maximum error: ±15 mV Resolution (min. error): 0.34 mV Typical error: 2.50 mV

Technical data
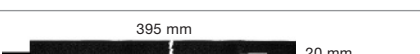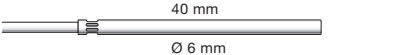## digital temperature and humidity probes
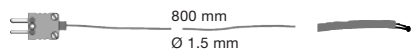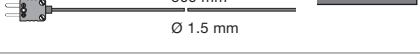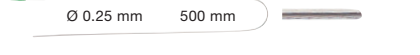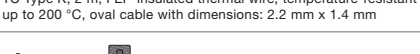
Probes	Digital NTC stub temperature probe	Digital stub humidity/ temperature probe	Digital cable humidity/ temperature probe	Digital door contact
Order no.	0572 2162	0572 2164**	0572 2165**	0572 2161
Measurement parameters	°C/°F	°C/°F, %RH (+ °C$_{td}$, g/m³)	°C/°F, %RH (+ °C$_{td}$, g/m³)	–
Probe type	NTC	NTC	NTC	–
Operating temperature	-30 to +50 °C			
Storage temperature	-30 to +60 °C			
Measuring range	-30 to +50 °C	-30 to +50 °C/ 0 to 100 %RH (non-condensing)		I/O
System accuracy	±0.4 °C	±0.4 °C at +25 °C ±2.0 %RH at 0 to 90 %RH at +25 °C ± 0.03 %RH/K (k=1) ±1.0 %RH hysteresis ±1.0 %RH/year drift		–
Solution	0.1 °C	0.1 °C / 0.1 %RH		–
Dimensions	Length 140 mm Ø 15 mm	Length 140 mm Ø 15 mm		Length 30 mm / width 40 mm / height 7 mm
Cable diameter	–	–	5 mm	2 mm
Cable length	–	–	1.3 m	1.3 m
Protection class	IP 42 when connected to data logger			
Weight	17.2 g	17.4 g	40.8 g	22.8 g
t$_{90}$	°C 240 s	°C 240 s / %RH 20 s	°C 240 s / %RH 20 s	–
Connection	TUC			

**Please do not use the probe head in condensing atmospheres.
  For continuous application in high-humidity ranges: > 80 %RH at ≤ 30 °C for > 12 h and > 60 %RH at > 30 °C for > 12 h, please contact Testo
  Service or contact us via the Testo website.

Probes	Digital Pt100 cable temperature probe	Flexible digital Pt100 temperature probe	Glass-coated digital Pt100 laboratory probe
Order no.	0572 2163*	0618 0071	0618 7072
Measurement parameters	°C/°F	°C/°F	°C/°F
Probe type	Pt100	Pt100	Pt100
Operating temperature	-30 to +50 °C		
Storage temperature	-30 to +60 °C		
Measuring range	-85 to +150 °C (only probes and cable)	-100 to +260 °C	-50 to +400 °C
System accuracy	±(0.25 °C + 0.3% of reading) at -49.9 to +99.9 °C ±0.55 °C remaining measuring range	±(0.3 °C + 0.3% of m.v.)	±(0.3 °C + 0.3% of m.v.) (-50 to +300 °C) ±(0.4 °C + 0.6 % of m.v.) (+300.01 to +400 °C)
Solution	0.01 °C	0.01 °C	0.01 °C
Dimensions	Length 90 mm Ø 3 mm	Length 1000 mm Ø 6 mm	Length 200 mm Ø 6 mm
Cable diameter	1.2 x 3.8 mm	4 mm	3 mm
Cable length	1.3 m	1 m	1.6 m
Protection class	IP42 in the data logger/probe system		
Weight	23.8 g	29 g	39 g
t$_{90}$	°C 20 s	°C 45 s	°C 45 s
Connection	TUC		
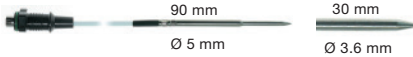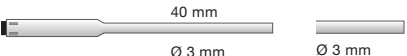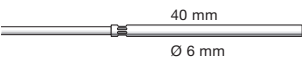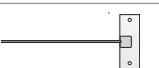
*Pt100 accuracy Class A

Technical data for
TC probes
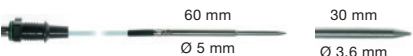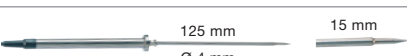
	Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	t$_{90}$	Order no.
TC probes					
Penetration probe, TC type K with ribbon cable, cable length 2 m, IP 54	60 mm Ø 5 mm / 30 mm Ø 3.6 mm	-40 to +220 C	Class 1*	7 sec	0572 9001
Thermocouple with TC plug, flexible, length 800 mm, fibreglass, TC Type K	800 mm Ø 1.5 mm	-50 to +400 °C	Class 2*	5 sec	0602 0644
Thermocouple with TC plug, flexible, length 1500 mm, fibreglass, TC Type K	1500 mm Ø 1.5 mm	-50 to +400 °C	Class 2*	5 sec	0602 0645
Thermocouple with TC plug, flexible, length 1500 mm, PTFE, TC Type K	1500 mm Ø 1.5 mm	-50 to +250 °C	Class 2*	5 sec	0602 0646
Magnetic probe, adhesive power approx. 20 N, with adhesive magnets, for measurements on metal surfaces, TC Type K, connection: fixed cable	35 mm Ø 20 mm	-50 to +170 °C	Class 2*	150 sec	0602 4792
Magnetic probe, adhesive power approx. 10 N, with adhesive magnets, for higher temperatures, for measurements on metal surfaces, TC type K, connection: fixed cable 1.6 m	75 mm Ø 21 mm	-50 to +400 °C	Class 2*	60 sec	0602 4892
Immersion measuring tip, flexible, for measurements in air/flue gases (not suitable for measurements in smelters), TC Type K	1000 mm Ø 3 mm	-200 to +1300 °C	Class 1*	4 sec	0602 5693
Immersion measuring tip, flexible, TC Type K	500 mm Ø 1.5 mm	-200 to +1000 °C	Class 1*	5 sec	0602 5792
Flexible, low-mass immersion measuring tip, ideal for measurements in small volumes, such as Petri dishes, or for surface measurements (e.g. fixed with adhesive tape)	Ø 0.25 mm 500 mm — TC Type K, 2 m, FEP-insulated thermal wire, temperature-resistant up to 200 °C, oval cable with dimensions: 2.2 mm x 1.4 mm	-200 to +1000 °C	Class 1*	1 sec	0602 0493
Pipe wrap probe for pipe diameters 5 to 65 mm, with replaceable measuring head, short-term measuring range up to +280 °C, TC type K, connection: fixed cable 1.2 m		-60 to +130 °C	Class 2*	5 sec	0602 4592
Pipe wrap probe with Velcro tape, for measuring temperatures on pipes with diameters up to max. 120 mm, Tmax +120 °C, TC type K, connection: fixed cable 1.5 m	395 mm 20 mm	-50 to +120 °C	Class 1*	90 sec	0628 0020
Stationary probe with stainless steel sheath, TC type K, connection: fixed cable 1.9 m	40 mm Ø 6 mm	-50 to +205 °C	Class 2*	20 sec	0628 7533
Waterproof superfast needle probe for measurements with no visible penetration hole, TC type T, fixed cable	150 mm Ø 1.4 mm	-50 to +250 °C	±0.2 °C (-20 to +70 °C) Class 1* (remaining meas. range)	2 sec	0628 0027
Frozen food probe for screw-in use without pre-drilling; TC type T, plug-in cable	110 mm Ø 8 mm / 30 mm Ø 4 mm	-50 to +350 C	±0.2 °C (-20 to +70 °C) Class 1* (remaining meas. range)	8 sec	0603 3292
Robust food penetration probe with special handle, reinforced cable (PVC), TC type T, fixed cable	115 mm Ø 5 mm / 30 mm Ø 3.5 mm	-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1* (remaining meas. range)	6 sec	0603 2492
Waterproof standard immersion/ penetration probe, TC Type T, fixed cable	112 mm Ø 5 mm / 50 mm Ø 4 mm	-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1* (remaining meas. range)	7 sec	0603 1293

*According to standard EN 60584-1, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 refers to -40 to +1200 °C (Type K), Class 3 refers to -200 to +40 °C (Type K)

Technical data for
NTC probes / Pt100 probes

	Probe shaft/probe shaft tip dimensions	Measuring range	Accuracy	t₉₀	Order no.
NTC probes					
Penetration probe NTC with ribbon cable, cable length 2 m, IP 54	90 mm / Ø 5 mm — 30 mm / Ø 3.6 mm	-40 to +125 °C	±0.5% of m.v. (+100 to +125 °C) ±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining meas. range)	8 sec	0572 1001
External temperature probe 12 mm, plug-in, without cable	105 mm / Ø 20 mm — Ø 12 mm	-30 to +50 °C	±0.2 °C (-30 to +50 °C)	240 sec	0572 2153
Stub probe, IP 54	35 mm / Ø 3 mm	-20 to +70 °C	±0.2 °C (-20 to +40 °C) ±0.4 °C (+40.1 to +70 °C)	15 sec	0628 7510
Accurate immersion/penetration probe, cable length 6 m, IP 67, connection: fixed cable; cable length: 6 m	40 mm / Ø 3 mm — Ø 3 mm	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining meas. range)	5 sec	0610 1725
Stationary probe with aluminium sleeve, IP 65, connection: fixed cable; cable length: 2.4 m	40 mm / Ø 6 mm	-30 to +90 °C	±0.2 °C (0 to +70 °C) ±0.5 °C (remaining meas. range)	190 sec	0628 7503
Pipe wrap probe with Velcro tape for pipe diameters up to max. 75 mm, Tmax +75 °C, NTC, connection: fixed cable; cable length: 1.5 m	300 mm / 30 mm	-50 to +70 °C	±0.2 °C (-25 to +70 °C) ±0.4 °C (-50 to -25.1 °C)	60 sec	0613 4611
Probe for surface measurement, fixed cable, 2 m	40 mm / 8 x 8 mm	-50 to +80 °C	±0.2 °C (0 to +70 °C)	150 sec	0628 7516
Wall surface temperature probe, e. g. for proof of structural damage in buildings, connection: fixed cable; cable length: 3 m		-50 to +80 °C	±0.2 °C (-25 to +80 °C) ±0.5 °C (-40 to -25.1 °C)	20 sec	0628 7507
Stainless steel NTC food probe (IP65) with PUR cable, connection: fixed cable; cable length: 1.6 m	125 mm / Ø 4 mm — 15 mm / Ø 3 mm	-50 to +150 °C	±0.5% of m.v. (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining meas. range)	8 sec	0613 2211
Waterproof NTC immersion/ penetration probe, fixed cable 1.2 m	115 mm / Ø 5 mm — 50 mm / Ø 4 mm	-50 to +150 °C	±0.5% of m.v. (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining meas. range)	10 sec	0613 1212
Accurate immersion/penetration probe, cable length 1.5 m, IP 67, connection: fixed cable; cable length: 1.5 m	40 mm / Ø 3 mm — Ø 3 mm	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining meas. range)	5 sec	0628 0006
Waterproof NTC immersion/ penetration probe, fixed cable 1.2 m	115 mm / Ø 5 mm — 50 mm / Ø 4 mm	-50 to +150 °C	±0.5% of m.v. (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining meas. range)	10 sec	0615 1212
Robust air probe NTC, fixed cable 1.2 m	115 mm / Ø 5 mm — 50 mm / Ø 4 mm	-50 to +125 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining meas. range)	60 sec	0615 1712
Temperature probe with Velcro (NTC), fixed cable 1.4 m	300 mm / 30 mm	-50 to +70 °C	±0.2 °C (-25 to +70 °C) ±0.4 °C (-50 to -25.1 °C)	60 sec	0615 4611

The standard temperature probes from the Testo range can be individually tailored to your application.
For more information please contact your Testo partner.

	Probe shaft/probe shaft tip dimensions	Measuring range	Accuracy	t₉₀	Order no.
Pt100 probes					
Penetration probe Pt100 with ribbon cable, cable length 2 m, IP54	60 mm / Ø 5 mm — 30 mm / Ø 3.6 mm	-85 to +150 °C	Class A*	35 sec	0572 7001
Robust, waterproof Pt100 immersion/penetration probe, fixed cable	114 mm / Ø 5 mm — 50 mm / Ø 3.7 mm	-50 to +400 °C	Class A* (-50 to +300 °C) Class B* (remaining meas. range)	12 sec	0609 1273
Robust Pt100 stainless steel food probe (IP65), connection: fixed cable	125 mm / Ø 4 mm — 15 mm / Ø 3 mm	-50 to +400 °C	Class A* (-50 to +300 °C) Class B* (remaining meas. range)	10 sec	0609 2272

* According to standard EN 60751, the accuracies of Classes A and B refer to -200 to +600 °C (Pt100).

testo Saveris 1:
The value proposition.

testo Saveris 1 supports you in four ways. The environmental monitoring system records and analyzes your critical environmental data, alerts you immediately if limit values are violated and can help you optimize your processes. For this, the all-in-one solution uses three performance-related components: sensors, software and services.

Sensors:
Reliable recording of quality data.

Thanks to more than 60 years of experience in the manufacture of measuring solutions and sensors, Testo has a variety of the measuring instruments you need to monitor environmental parameters. Precise and reliable sensor technology that can be optimally integrated into your processes is our top priority.

Software:
Audit-proof compliance for all relevant data.

The testo Saveris software enables comprehensive analysis and evaluation of all recorded measurement parameters - with access from anywhere. Detailed logging functions and secure archiving of measurement data makes testo Saveris 1 an audit-proof central data management platform that also meets the requirements of the FDA regarding 21 CFR Part 11 and Annex 11 of the EU GMP Directive.

Services:
A competent partner worldwide.

Our specially GxP-trained service team accompanies you through all process steps in a customer-oriented and systematic way – from planning, documentation, system qualification and software validation through to service and support. Together with you, we define a tailored service concept in all project phases. You can rely on us during operation, too. We take care of your system and its maintenance, calibration and validation.

Notes

Be sure. testo

High-tech from southern Germany.

● Subsidiaries

● Retail partners
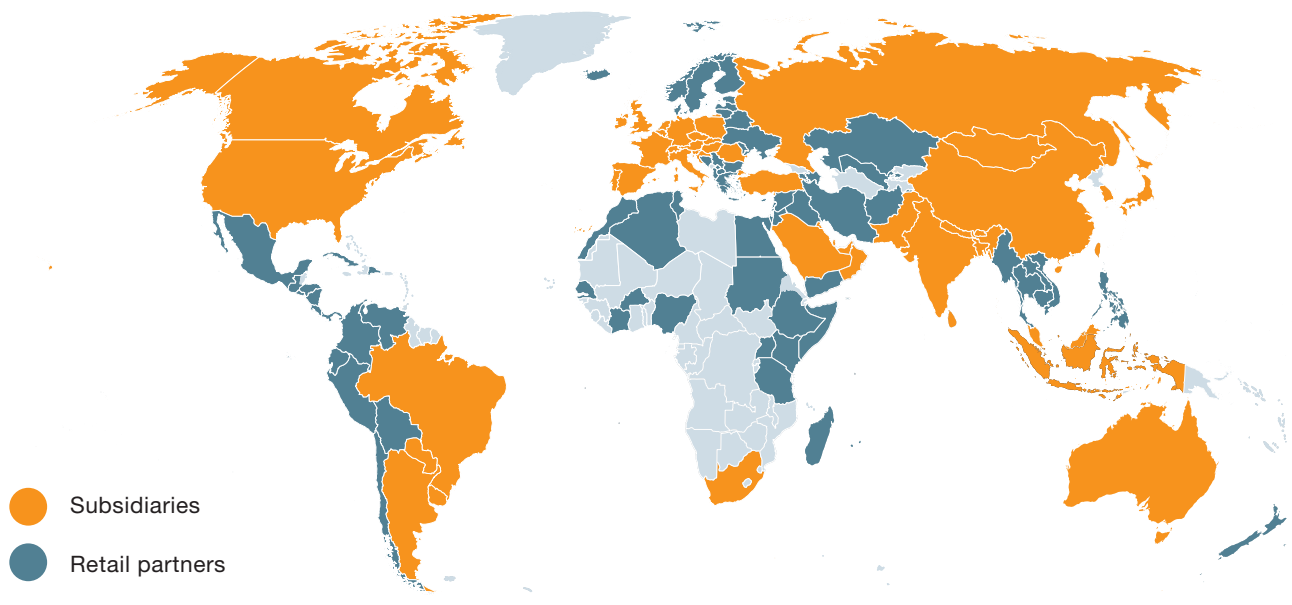
For over 60 years, Testo has been known for creating innovative measuring solutions made in Germany. As a world market leader in portable and stationary measuring technology, we support our customers in saving time and resources, in protecting the environment and human health and in increasing the quality of goods and services. More than 3400 employees work in research, development, production and marketing for the high-tech company in 36 subsidiaries all over the world. Testo impresses more than 1 million customers all over the world with high-precision

measuring instruments and innovative solutions for the measurement data management of tomorrow. An average annual growth of over 10% since the company's foundation in 1957 and a current turnover of just short of 300 million Euros impressively demonstrate that southern Germany and high-tech systems go perfectly together. The above-average investments in the future of the company are also a part of Testo's recipe for success. Testo invests about a tenth of annual turnover in research and development.

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